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How to Grow
Better Cabbage
&
Cauliflower

M. KLITGORD
Importer of Danish Seeds
LIMA, NEW YORK

D. N. Shoemaker.
APR 9 1923

The Importance of Reliable Seed

THE United States Department of Agriculture in its bulletin on the "Cabbage" recognizes the importance of high grade seed in the growth of successful cabbage crops. "In no truck crop does the character of the seed count for more than in cabbage," it reads. "The small saving made by the purchase of cheap or inferior seed is usually paid for a hundred times over in the lessened value of the crop. A grower can not afford to risk his crop for so small a saving."

—*Farmers Bulletin No. 433, page 8*

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The Reliability of M. Klitgord as a Seedsman



*M. Klitgord, who has been
in business in this country
for 12 years.*

M. Klitgord, who was born and brought up in Denmark himself, has been in the seed business in this country for 12 years, importing high quality seeds from the best growers of Denmark. He is in a position to know who the best growers are, for he has lived among them. Being a specialist in this line, he is able to judge good seed and to keep his standard of quality at all times the best. His experience is available to his customers.



*M. Klitgord inspecting cabbage seedlings
before transplanting.*

Why Danish Seeds are Best

Denmark, the Nation of fine Farms

FAR away across the seas in a little country not often heard about are grown some of the finest crops the world produces. Nature has not only endowed Denmark with ideal conditions of climate and soil but has bestowed upon her, as well, a hardy race of gardeners and farmers whose skill in producing certain crops is universally recognized.

Denmark, nearly surrounded by water (in fact much of her territory being composed of islands) is the most wonderful agricultural country in the world. From her fertile soils have been developed several of our important crops — principally, cabbage, cauliflower, brussels sprouts, spinach and other so-called “Danish crops.”

Conditions in Denmark best for the Cabbage

In the early, primitive days plants originated, naturally, in the places best suited to their development. Cabbage and cauliflower, then, originated in Denmark, *because Denmark had the most favorable conditions in all the world for the growth of these plants.*

Since the early days the situation has not changed. Denmark is still the best adapted to the growth of the cabbage and cauliflower, still produces the best crops, and, unless there is some tremendous climatic re-arrangement in the world, Denmark will always be the greatest cabbage producing country.

It is to be expected, therefore, that the country which produces the strongest, healthiest plants will also be the source of the strongest, healthiest seeds. This is exactly the case. Danish growers have had generations of experience in producing high-yielding crops and high quality seeds.

Northern Grown Seeds the Hardest

If you will study your map you will see that Denmark is about 55° latitude, corresponding generally to British Columbia. Denmark seldom has weather warmer than 80°, and the tempering salt breezes have much to do with the healthy quality of Danish seeds. You know that northern grown seeds are at all times the strongest and most suitable for the United States.

Cabbage and Cauliflower Profitable Crops for the United States

Although Denmark is the greatest cabbage and cauliflower producing nation, it does not mean that these crops can not be grown profitably in the United States. Quite the contrary, for certain sections of the United States approach Danish conditions very satisfactorily.

Danish Seeds Outyield Others

But high grade Danish grown seeds planted in Danish soil outyield any others the world over; and high grade Danish grown seeds planted in American soil outyield American grown seeds—and they *always* have.

Danish grown seeds, then, are the best for three reasons: (1) Because they are grown in the country nature has endowed with the most ideal conditions of climate and soil; (2) Because they are northern grown and hardy; and (3) Because they are grown by the world's greatest cabbage and cauliflower growers who have specialized in these crops for generations.

With these points before you can there be any question in your mind about planting genuine imported Danish seeds?

Beware of "Danish" Seeds Grown in America

Many so-called "Danish Seeds" now distributed by seedsmen are American grown seeds from Danish strains. They may have been bred from Danish seeds originally; but their productivity is not as great as *original* Danish seeds. Even if America had exactly the same climatic conditions as Denmark she would not be likely to pro-

duce as high grade seeds as the little Scandinavian country, for her growers have not had the generations of experience that the Danes have had.

In curing the seeds alone, the Danes excel, for, by methods known only unto them, they are able to preserve high percentages of germination and strength.

Seeds grown in other European countries are also sold as "imported" seeds, but are inferior in every way to Danish seeds.

It is distinctly to your advantage to learn the *source* of your cabbage, and cauliflower seeds, and buy *the best*.

Where Klitgord Seeds Come From

Every seed sold as a Danish seed by M. Klitgord is imported directly from the oldest and most reliable seed house in Denmark. M. Klitgord does distribute a superior grade of American grown seeds also, but Danish seeds are his specialty. Cabbage, Cauliflower, Spinach, Brussels Sprouts, and Kale are Danish grown. Among the seeds grown in this country are the following varieties, as you will see from enclosed price list: Beets, Celery, Carrots, Cucumbers, Lettuce, Onions and Mangels. This booklet, however, will be devoted exclusively to Danish seeds.

All Klitgord seeds, whether Danish or American, are from pure bred, high-yielding strains developed by the best growers in the respective countries.

How to grow Cabbage

CABBAGE is grown for three different purposes: as a truck crop, as a market garden crop, and as a farm crop; depending upon location. Market gardeners within hauling distance of most large cities are growers of cabbage on a limited scale. Truck farming, which amounts really to extensive market gardening, takes place chiefly on the Atlantic seaboard from Baltimore southward. The early varieties are used for this purpose and the culture differs considerably from that in the north.

Inasmuch as we are located in the center of the section devoted to raising cabbage as a farm crop we shall limit our discussion to that type of cabbage growing.*

The four cardinal principles of successful cabbage growing

There are four important points in the cultivation of a high-yielding cabbage crop:

1. Reliable, healthy seed of a high yielding strain.

2. The selection of disease-free land for seed bed and field.

3. Strong healthy seedlings that will stand transplanting well.

4. Fields kept clean by frequent cultivation.

Soil and climate

The soil best adapted to the farm cabbage is a heavy, rich and moist loam. Cabbage is one of the so-called "northern" crops. Ideal climatic condition is about 55 to 80 degrees, Fahrenheit, this corresponding practically to the conditions in Denmark, the home of the cabbage. Slight variation from these temperatures is, of course, of little consequence.

Cabbage can be successfully grown, then, as a farm crop in New York, Pennsylvania, New Jersey, New England, the states

bordering on the Great Lakes and even as far south as Kentucky, Tennessee, and Missouri. Because of the scope of this territory and the variations in seasons, we can not, of course, give any definite schedule for planting, etc. This must be determined by the locality and the season.

Preparation of the soil

Cabbage is often used as one of the factors in a crop rotation—corn followed by oats and clover, followed by cabbage, being a popular combination. Clover sod turned under and supplemented by a heavy dressing of stable manure, worked deep, makes good cabbage soil. In place of manure a high grade fertilizer of 3½ or 4 per cent of nitrogen, 6 or 8 per cent of phosphoric acid and 8 to 10 per cent of potash can be used; 500 to 1000 pounds per acre.

Selection of the seed bed—important

The first step in the actual production of the cabbage is the selection of a seed bed which has not grown or propagated diseased cabbage or

*Farmers Bulletin No. 433 published by the Bureau of Plant Industry, United States Department of Agriculture, Washington, gives very fully the culture of cabbage as truck and market garden crops. If you wish to raise cabbages for this purpose it would be advisable to send for a copy of the bulletin which is free. Imported Danish seeds are necessary for uniform quick and sure heading crops—the source of profit in the market garden business.

related crops for a period of 6 or 7 years: i. e. land that is known to be free from clubroot and rot organisms. (See paragraph on Clubroot, page 7.)

The seed bed for the intermediate and late crops should be in the open but preferably in a sheltered spot.

How and when to sow seeds One ounce of seed will produce about 2,000 plants. Allow 6 ounces to the acre.

The seed should be sown thinly broadcast or in open drills not over $\frac{1}{4}$ inch deep. For early cabbage sow seed as early as possible in the spring, preferably in covered frames, transplanting to the open after the seedlings have been hardened off by gradually exposing to the night air. In some sections the seed beds are covered with cheese cloth preventing harmful insects from coming in contact with the young seedlings.

In the latitude of central New York the later varieties are sown in the open about May 1st. If the weather and soil are dry, the late sowing should be shaded and watered to hasten germination, but the young seedlings should not be shaded or crowded once they are above the ground or they will not be stocky by transplanting time.

Care of the young plants The young plants should be kept free from weeds and crowding until ready to transplant.

Setting out the plants Transplanting should take place as soon as the seedlings

are 4 to 6 inches high. Set plant down to the first leaf. This is important. Early varieties, which are smaller, may be planted 18 to 24 inches apart in the row, but 30 inches is not too much for some of the late, large-growing sorts. Plants may be set out by hand with a dibble or on a large scale with a transplanting machine.

Keep your fields clear of weeds And now begins the work of cultivation. In raising cabbage and cauliflower, keeping the fields clean is very important. Plants should be cultivated frequently as long as the cultivator can be run between the rows.

A few words about harvesting and storing In harvesting and storing cabbage, great care should be exercised in handling the heads. They should be tossed carefully from hand to hand and never thrown into a wagon or bin. In hauling cabbage, spring wagons should always be used.

Three requisites for successful storing of cabbages are: (1) Carefully handled heads of a good storing variety, such as the Danish Ball Head grown from imported seed; (2) a frost proof storage house with dead air space at walls and roof and arranged so as to preclude the possibility of drip from the ceiling; and (3) control of ventilation and temperature to prevent condensation of moisture on cabbage.

ENEMIES OF THE CABBAGE

Early protection of the crop from insect enemies is important.

Root Maggot During some seasons root maggots which attack the cabbage in the seed bed, constitute its worst enemy. The method for combating these pests, recommended by the New York Agricultural Experiment Station at Geneva, N. Y., is to use finely pulverized mercuric chloride at the rate of one ounce dissolved in 10 gallons of water. The resulting solution should be applied to the base of the plants, the object being to moisten the ground around the plants to a depth of an inch or more, at the rate of one gallon to about 30 feet. The first application should be made as soon as the flies appear in numbers, but not until the seedlings are well out of the ground or severe burning will result. In a bad maggot year three applications may be necessary at intervals of about one week. This method costs less than half that of cheese cloth screening but can not be recommended unqualifiedly as a substitute during an extremely severe infestation.

Cabbage Worm The cabbage worm which attacks the cabbage in the field can be controlled by the use of Paris Green at the rate of 1 pound to 50 gallons of water, or perhaps a still better method is to use arsenate of lead at the rate of 4 pounds to 50 gallons of water. These are both poisonous and should not be used after heads have started to form.

Cabbage Aphis or "lice" The most serious infestations of the cabbage aphis occur during hot, dry seasons.

It is difficult to reach the aphis by spraying methods because the colonies are usually on the underside of the leaves. Also, the aphis colonies cause the leaves to curl thus protecting them from spray.

After extensive experiments the best method of combating these pests which has been determined is the use of a 5% nicotine sulphate dust in a mechanical duster. The dust blown into the cabbage or cauliflower reaches the aphis quite satisfactorily.

30 pounds of dust per acre should be enough, but as much as 60 pounds may be necessary, depending upon the size of plants and the degree of infestation.

Clubroot Clubroot is the worst and most persistent disease to which cabbage is subject. It remains in soil which has become infected for a period of 5 to 7 years. It may be transmitted in poor plants and in manure. This is the danger in buying plants to set out. Grow your own plants from pure seed on land you know to be free from club root.

If a crop should become contaminated with clubroot, do not use that land for at least 7 years for cabbage, turnip, rape, mustard or any other member of the cabbage family. This applies to both seed bed and field. The disease will spread if this rule is not observed. Do not use manure containing cabbage refuse or from stalls or pigsties in which cabbage or related crops have been fed.

How to Grow Cauliflower

There has been a popular superstition until recent years that cauliflower is a difficult crop to grow and that its cultivation, therefore, should be limited to a small group of "experts." This is a fallacy.

The culture of cauliflower, in general, is the same as that of cabbage. It is usually grown on a smaller scale because it requires richer ground and a little more attention.

The success of the cauliflower crop depends chiefly on two items: (1) Uninterrupted growth and (2) high grade seed.

Importance of Good Seed In the culture of cauliflower even more than in cabbage the factor of good seed is an all-important one. Plants must be bred from sure-heading strains. Probably more cauliflower crops are unsuccessful because of cheap seed than for any reason.

Uninterrupted Growth Necessary Care should be exercised in all operations connected with the raising and transplanting of the plants, for any element tending to arrest their growth even temporarily may result adversely.

Enrich the Land About the only difference between the cultivation of cabbage and cauliflower is that the latter requires richer ground. A 6-8-2 fertilizer broadcast on the seed bed will help insure continued growth. For the field use 15 to 20 tons of well rotted stable manure to the acre and work deep. Supplement this with 1,000 pounds of 4-8-4 fertilizer and harrow before planting.

How to Plant In Central New York the seed is planted about the middle of May and the young plants transplanted to the field about 6 weeks

later. Allow 2 ounces of seed to the acre. Set plants 18 inches by 3 feet apart in the field.

Otherwise than noted above the care of cauliflower is the same as that of the cabbage.

Bleaching the Heads When the cauliflower head is about the size of a dollar the leaves should be bent over to protect the head from sun and weather, thereby bleaching it to a pure white. Arrange leaves so that water can drain off and will not settle on the curd.

Harvesting Three cuttings are usually made in the cauliflower crop. Tie the first batch of leaves with string, the second with raffia, and bleach the third by breaking the leaves over. Thus you can differentiate between the three cuttings and will not have to examine each head as to maturity.

Enemies The enemies of the cauliflower are the same as those of cabbages, and the means of protection against them are the same.

Change the locality of your cauliflower field each year. *Use imported Danish seed, keep your crop growing, and the success of your cauliflower crop will be assured.*

Cabbage

(For prices see enclosed price list)

EARLIEST OBLONG HEADS

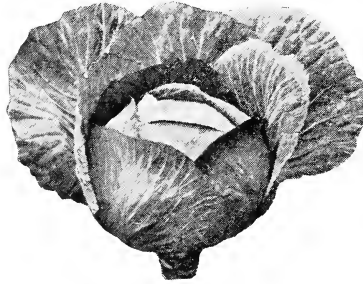
EARLY JERSEY WAKEFIELD—Probably the most popular of the early oblong varieties, its solid pointed heads maturing very early because of its extreme hardiness. One of the best for the extra early crop.

CHARLESTON LARGE WAKEFIELD—A good variety to follow Jersey Wakefield. Matures about a week later with conical heads fully as solid and at least $\frac{1}{2}$ larger.

TRUE EARLY WINNINGSTADT—Another good successor to the extra early varieties. Dark green, pointed heads, solid and of excellent quality.

EARLY ROUND HEADS

EXTRA EARLY ROUND—The earliest of all rounds. A wonderful new cabbage with heads as solid as a rock and weighing 5 to 6 pounds. Will stand long after being ready to cut without splitting. We recommend a trial of this remarkable early cabbage.



Extra Early Round

COPENHAGEN EXTRA EARLY ROUND—One of the most valuable crops. Is ready for the market as soon as the early Jersey Wakefield. Plants are short stemmed and may be set closer than most varieties. A vigorous grower and fine keeper. Solid core of excellent quality makes it one of best sellers. Yield about 18 to 24 tons per acre.

The most popular early cabbage in the markets of Copenhagen and now equally popular in America. Klitgord seed is the finest there is, being imported direct from the originators of this favorite strain in Denmark.

GLORY OF ENKHOUSEN—A second early, sure-heading variety of large, solid heads. A compact grower allowing close planting. Especially desirable for market growers to set out in July after the early spring crops are harvested. This strain of Glory is a very heavy yielder, customers often reporting yields of 30 tons to the acre.

ALL HEAD EARLY—Another excellent second early cabbage, or it can be planted late for a fall or early winter crop. Deep, solid, flat heads of uniform size and shape. Excellent for kraut making. Yields 18 to 22 tons in good seasons.

WINTER CABBAGE

DANISH BALL HEAD—

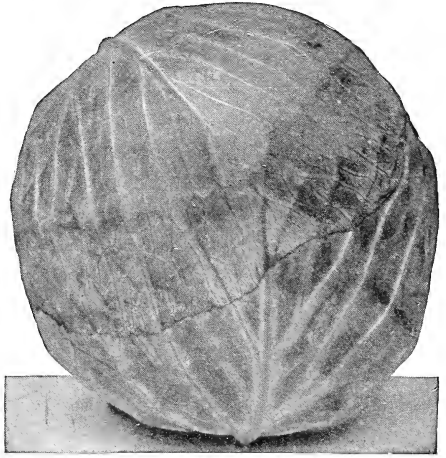
Probably the most popular of all cabbage. Hardy, adaptable to all types of soil, a sure header, of unrivalled solidity and weight and, above all, it is a good keeper.

The Danish Ball Head may be a medium to late cabbage, but is usually grown as a late crop. The heads are round and extra heavy. Can be grown in close quarters.

The keeping qualities of the Ball Head are unequalled. It comes out of the pits in March as fresh as when put in, and with no waste.

Klitgord seed comes directly from the oldest seed house in Denmark which was the originator of this famous strain.

DANISH ROUND HEAD—This strain produces large, solid, almost perfectly round heads of the same keeping qualities as the famous Danish Ball Head. It is about 10 days or 2 weeks earlier in maturing and is one of the very heaviest yielders. Crops of 20 to 28 tons per acre are not uncommon. A fine strain for shipping in late fall.



Danish Ball Head

RED CABBAGE

RED DANISH STONE HEAD—This strain of late red cabbage, originated in Denmark, is considered one of the best cabbages introduced. The plants are strong and compact, producing dark red, round, solid heads. The red color extends through to the center of the head. Valuable for home garden, market or pickling.

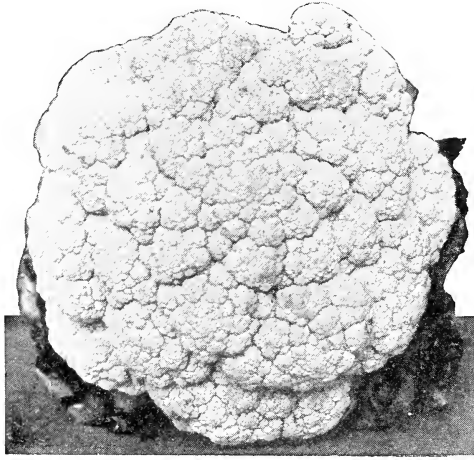
MAMMOTH RED ROCK—This is the largest and surest heading of the red cabbages. A vigorous grower, medium stem and an attractive deep red color. Excellent for cole slaw and pickling.

Cauliflower

(For prices see enclosed price list)

Early Express Snow Ball

Undoubtedly the finest and most popular of the early varieties. Fine for forcing or holding over winter for extra early crop. Can also be grown as a late summer and fall crop. Heads medium to large in size, compact, pure white and curd-like. A sure and early header. Sturdy plant with short upright leaves. Seeds of the very highest strength and purity.



Early Express Snowball

Extra Early Dwarf Erfurt

An excellent sort very similar to the Snowball, but a little later. One of the best for general cultivation.

Dry Weather Danish Giant

Second early, extra large, compact, pure white heads, tall foliage protecting from unfavorable weather conditions. The best variety to use in localities subject to dry, warm seasons.

*Klitgord Seed Has Increased Yields for
Others—It Will Make Money for YOU*

The best seed and cabbage I ever grew.

—*H. D. Spencer, Brockport, N. Y.*

I never before had seeds so good as the ones I had of you. In fact, every seed germinated, and every plant is healthy and a good grower. I planted a lot of them in Maine before coming here, and have a lot more growing here. All are equally vigorous.

—*Harry B. Graves, Falmouth, Mass.*

I have been using your Cauliflower seed for the last 3 years with satisfaction. Last year I raised about 3 acres which produced very fine Cauliflower.

—*Yours Respectfully, E. N. Gove, Henrietta, N. Y.*

We grew an excellent crop of Cabbage from the seed purchased of you last Spring. We had a good chance for comparison as one portion of the field was set out to plants from different seed. We consider your seed superior to any we have had.

Yours truly, T. R. & E. E. Miniee, Elmira, N. Y.

